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The State of Mobile Wireless Competition)	WT Docket No. 11-186
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Dated: December 5, 2011

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Twilio Inc. (“Twilio”) submits these comments in response to the Federal Communications Commission’s Public Notice seeking comment on the state of mobile wireless competition. *See* Public Notice, *Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition*, WT Docket No. 11-186, DA 11-1856 (Nov. 3, 2011).

I. INTRODUCTION AND SUMMARY

Twilio welcomes the opportunity to discuss wireless competition and bring its forward-looking perspective to the discussion with respect to competition in commercial mobile services. Twilio’s comments focus on what the Public Notice denotes as “downstream” or “edge” market segments because Twilio is being used by over 70,000 developers to create innovative telecommunications applications and services. Twilio is enabling developers to create mobile applications and integrate voice and text messaging into existing and new products, among other exciting possibilities. The Commission’s efforts should be focused on competition in these areas of the mobile ecosystem because they are driving innovation, mobile adoption, and job creation. Voice and other metrics are important aspects of the mobile ecosystem, but information on emerging applications and data uses, like text messaging, is needed for the Commission to develop a holistic view of the expansive mobile sector. The Commission should focus its efforts on encouraging competition in this area of the mobile ecosystem because it will most significantly benefit consumers and the marketplace.

To encourage competition in this “edge” market segment, Twilio encourages the Commission to take the actions identified below that would create an open, accessible, and innovative mobile ecosystem designed to benefit consumers and create jobs by simplifying and unlocking numbering resources and the text message marketplace for greater innovation and competition.

II. TWILIO

Twilio was founded three years ago as an innovative Internet-based cloud communications company that is reinventing telecom by merging cloud computing, web services, and traditional telecommunications. Twilio hosts a telephony infrastructure web service in the cloud, allowing web developers to integrate phone calls, text messages, and IP voice communications into their web, mobile, and traditional phone applications. Using Twilio, a company can integrate each of these different communication methods into a single product. In short, Twilio takes things that are complicated about telecommunications and makes them simple.

Using Twilio's software platform and simple developer tools, web developers and businesses can build sophisticated unified communications solutions such as call centers, office phone systems, call tracking tools, and more that interoperate with multiple telephone networks. Twilio's powerful API minimizes the learning curve required to build advanced, reliable voice communications applications on the Internet that solve critical business and consumer needs. Twilio's service integrates with traditional phone service and text messages/SMS using Twilio's existing web service APIs for making and receiving phone calls and text messages. One of Twilio's products, Twilio Client, also allows web developers to build Skype-like voice capabilities with just a few lines of code. Twilio's products work simultaneously across platforms, allowing web browsers, mobile phones, and tablets running iOS or Android to communicate seamlessly. One of the fastest growing portions of Twilio's business is mobile application development. Over 70,000 developers have used Twilio to integrate telecommunications into their applications and products. Finally, Twilio is quickly expanding internationally, having recently announced launches in England and Europe.

By making telecommunications integration in web, mobile, and app products easy for developers, Twilio benefits consumers by providing them with a host of new products and services that otherwise wouldn't be possible. Many companies and organizations are using Twilio to simplify their telecommunications needs to the benefit of their customers and users. For example, Intuit Inc. used Twilio to develop a new security feature which sends a verification code to the online user's phone, via phone call or SMS, when an online user attempts to change sensitive data. This minimally intrusive security feature prevents identity theft while relying on the cloud to save time and money in implementation. WalMart was able to create SMS notifications for its "Values of the day" discounts using Twilio, which allowed WalMart to test the idea quickly and inexpensively before rolling out the feature.

New companies are being created using Twilio as a foundational tool. GroupMe, which provides a free group text messaging service, was created using Twilio during a programming contest in 2010. GroupMe was quickly able to add features and attract users by using Twilio to easily increase the reach of their products and services. GroupMe, one of the hottest recent Internet telecommunications companies, and the jobs created by GroupMe would not exist without Twilio. GroupMe has been so successful that it was recently acquired by Skype.

In short, Twilio is part of a new generation of companies involved in telecommunications that are benefiting consumers by opening up new applications, products, and services for existing companies like Intuit and Walmart and newly-formed companies like GroupMe. By allowing developers to easily integrate telecommunications into their products and applications, Twilio is an important and unique part of the mobile ecosystem. New mobile

applications are being developed everyday using Twilio, which means that mobile users are benefiting every day.

III. WIRELESS COMPETITION

Any Commission analysis of the state of mobile competition would be incomplete without an evaluation of whether the mobile market is serving new enterprises, such as Twilio, in addition to traditional metrics. Towards that end, the Commission should be informed by the discussion below. Additionally, Twilio recommends the Commission take certain actions to ensure and encourage competition in the mobile application market segment. Specifically, Twilio recommends that the Commission apply common carriage principles to text messages and reform the short code system. Applying common carriage principles to text messages would ensure that no consumer's text messages are ever blocked because of a wireless carrier's actions. Reforming the short code system would lead to lower prices, encourage competition, and lead to new products all to the benefit of consumers.

1. Measuring Competition By Focusing On Applications

The FCC's Public Notice asks a number of questions about the state of competition with respect to commercial mobile services. Twilio respectfully submits that the most important measurement of mobile competition is competition in data and applications across carriers, software providers, and handset manufacturers, the so-called "downstream" or "edge" market segment identified in the Public Notice. Unquestionably, the mobile world is trending towards smartphones and applications that use data. And, even users of simpler feature phones benefit from applications that use text messages to provide communications, information, and alerts. While voice and other metrics are still worth examining, they are increasingly less significant in light of the advances in applications. The Commission should encourage

competition in the mobile ecosystem by supporting developers and mobile content creators through an open mobile ecosystem, and by resolving several open issues before it.

The state of mobile competition can best be evaluated by examining the mobile content ecosystem and the development of mobile applications and products. The free development and operation of mobile content and applications is critical to the success of the mobile ecosystem and should be a critical measurement of mobile competition. Twilio is a major part of the development mobile applications because it enables developers across the country and the world to invent interesting new mobile applications. The success of the mobile ecosystem depends on companies like Twilio successfully enabling new applications like GroupMe that in turn benefit consumers. A measurement of competition should contain an evaluation of carriers' openness to applications and mobile content.

The Commission's support for this emerging market segment will also foster economic growth and the creation of jobs. Indeed, it is widely recognized that start-ups, like Twilio, are the engine of job creation.¹ Twilio has gone from three employees to almost a hundred in three years and has plans to hire many more "high-tech" employees in the coming years. The thousands of developers that are using Twilio are creating jobs when they invent a new product or application that captures the consumer's attention and grows into a business. As the Chairman has recognized, apps mean jobs.² The Commission should be doing everything it can to encourage economic growth in the mobile application sector.

¹ Robert J. Samuelson, *The Real Jobs Machine*, Newsweek, Oct. 2, 2010, *available at* <http://www.newsweek.com/2010/10/02/samuelson-startups-create-most-new-jobs.html> (last visited Nov. 30, 2011); Thomas Friedman, Op-Ed, *Start-Ups, Not Bailouts*, N.Y. Times, April 3, 2010, 2010 WLNR 6962167, *available at* <http://www.nytimes.com/2010/04/04/opinion/04friedman.html> (last visited Nov. 30, 2011).

² Speaking at an event in San Francisco on November 4, 2011, Chairman Genachowski stated that a conservative estimate of one job per app meant that thousands of jobs had been

Despite the opportunities available, mobile content developers and application developers face barriers to success that are not based on technological or engineering hurdles, but instead reflect a marketplace dominated by a few wireless carriers who seek to limit consumer use of their mobile devices. Four carriers – Verizon Wireless, AT&T, Sprint-Nextel, and T-Mobile – control over 90% of the U.S. wireless market, with Verizon and AT&T combined in control of 60% of the wireless market.³ The possibility of an AT&T and T-Mobile merger would increase that concentration even further as noted in the recent Staff report analyzing the proposed transaction released by the Commission on November 29, 2011. Technological and engineering barriers can be overcome through creative thinking and hard work by developers. Institutional barriers created by a wireless-carrier-dominated marketplace, however, can only be overcome through Commission action to ensure that consumers have an open mobile ecosystem.

Key questions regarding this competition measurement should include whether carriers have blocked or claim the right to block text messages or applications. Wireless carriers have shown that they will block content over mobile devices if they disagree with the content⁴ or

created during the recent mobile app boom. See <http://techcrunch.com/2011/11/04/ron-conway-fcc-chairman-genachowski-and-other-tech-stars-team-up-to-fight-the-spectrum-crunch> (last visited Nov. 30, 2011).

³ *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, including Commercial Mobile Services*, WT Docket No. 10-133, Fifteenth Report, FCC 11-103, at ¶ 31 (rel. June 27, 2011), also available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-103A1.pdf (“Fifteenth Report”).

⁴ Adam Liptak, *Verizon Blocks Messages of Abortion Rights Group*, N.Y. Times, Sept. 27, 2007, at A1, 2007 WLNR 18960271, available at <http://www.nytimes.com/2007/09/27/us/27verizon.html> (last visited April 4, 2010).; Adam Liptak, *Verizon Reverses Itself on Abortion Messages*, N.Y. Times, Sept. 28, 2007, at A20, 2007 WLNR 18998680, available at <http://www.nytimes.com/2007/09/28/business/28verizon.html> (last visited April 4, 2010).

see the content as competing with their own services.⁵ Notably, CTIA has even asserted that “[a] wireless carrier ... has no obligation to provide a platform for competitors to advertise their services.”⁶ Thus, any application that might compete with the wireless carriers’ offerings is threatened with wireless carrier interference. Wireless carriers make inconsistent distinctions, finding that content is objectionable when one company sends it over text messages, but acceptable when the same message is sent over text message using Facebook or Twitter.⁷

While the wireless carriers attempt to claim there has been no consumer harm, numerous examples abound of wireless carrier’s blocking text messages.⁸ And, any consumer harm from unwanted text messages can be alleviated by existing laws like the Telephone Consumer Protection Act (“TCPA”), which is being actively enforced both privately and by the Federal Trade Commission.⁹ Even one instance of blocking is consumer harm, and when all the wireless carriers claim the right to block content, as they have, there is no competition for an

⁵ See Rebtel played by the rules. Now it’s Verizon’s turn, *available at* <http://blog.rebtel.com/2008/02/20/rebtel-played-by-the-rules-now-it%E2%80%99s-verizon%E2%80%99s-turn/> (last visited Nov. 30, 2011); Bruce Meyerson, *Not on Our Network, You Don't*, BusinessWeek, Dec. 13, 2007, *available at* http://www.businessweek.com/magazine/content/07_52/b4064034911363.htm (last visited Nov. 30, 2011). Rebtel also claims that AT&T has converted Rebtel short code messages so that they are not stored in the user’s mobile phone after the message is closed. Rebtel, AT&T: Please stop playing games, *available at* <http://blog.rebtel.com/2008/02/28/att-please-stop-playing-games/> (last visited April 4, 2010).

⁶ See *Ex Parte* of CTIA, at p. 9, GN Docket No. 09-191, WC Docket No. 07-52 (June 11, 2010).

⁷ See *Ex Parte* of Mobile Internet Content Coalition, WT 08-7 (Sept. 20, 2010).

⁸ See e.g., Letter from Public Knowledge and Free Press to Chairman Genachowski, Mar. 25, 2010, *available at* <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020397339>; John Schwartz, *Catholic Charity and Sprint Tangle Over Texting*, N.Y. Times, Mar. 24, 2010, 2010 WLNR 6163633, *available at* <http://www.nytimes.com/2010/03/25/technology/25texting.html> (last visited on April 4, 2010).

⁹ FTC, *FTC Asks Court to Shut Down Text Messaging Spammer* (Feb. 23, 2011), *available at* <http://www.ftc.gov/opa/2011/02/loan.shtm> (last visited Dec. 2, 2011).

“open” wireless carrier. Blocking also hurts developers and job creation, because the uncertainty inhibits new application development. Twilio strongly supports an open mobile ecosystem that allows developers to create new applications without threat that they can be blocked by a wireless carrier.

2. Recommended Commission Actions

Twilio asserts that competition in mobile applications would be served by extending common carrier protection to text messages and altering the short code numbering plan set up by CTIA whereby application developers are required to use short codes even when there is no technological reason to do so. Action on these issues by the Commission would encourage competition and provide greater stability to the mobile application segment. Competition, consumers, and developers would benefit from the Commission clarifying the regulatory status of text messages.

A. Apply Common Carriage Principles to Text Messages

First, the Commission should apply common carriage principles to all text messages. As noted above, wireless carriers claim the right to block text messages, something that would not be possible if common carriage principles were applied. Blocking and the threat of blocking inhibit growth in this sector because applications can be rendered useless if a wireless carrier blocks text messages from the applications. Developers are reluctant to create new applications knowing they are susceptible to being shut down by a carrier. Stated simply, arbitrary limits on the use of a technology, here text messages, inhibit growth and innovation with that technology. The Commission has taken steps to prevent Internet service providers from blocking the content over the web. A carrier could not block a phone call because of the content of that call. Why are text messages any different? Common carriage protection would encourage application development using text messages by providing stability and certainty to

app creators. Stability in the marketplace would mean more jobs, because it would mean more development.

An important first step in providing common carriage protection for text messages would be action on a petition currently before the Commission. Pending since January 2008, Commission action on the Text Messaging Declaratory Ruling Proceeding WT 08-7 initiated by a petition from Public Knowledge would benefit consumers and competition by ensuring that nondiscrimination principles are applied to text messages. If granted, Public Knowledge's petition would ensure that carriers cannot block text messages and that the significant and growing marketplace involving text message applications would thrive without the threat of arbitrary carrier actions. Consumers would benefit because they would never risk a text message not being sent to or received from an application they have chosen to use. As it stands, text messages are in a regulatory limbo, possibly subject to some laws such as the TCPA, yet able to be blocked by wireless carriers if they so choose. Commission action on Public Knowledge's petition would provide some much-needed certainty.

The regulatory limbo of text messages has affected not just businesses and consumers, but is further highlighted by the April 22, 2011 letter from the Universal Service Administrative Company ("USAC") asking for guidance on how to classify text messaging for Universal Service Fund ("USF") purposes.¹⁰ USAC has sought Commission guidance on how to classify text message revenue, as telecommunications revenue or non-telecommunications revenue. Noting that the Commission has not classified text messages, including short code based text messages, USAC states that it is unable to determine the proper classification for USF

¹⁰ USAC Letter, WC 06-122 (April 22, 2011) available at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7021346734> (last visited Dec. 2, 2011); *see also* Public Notice, *Wireless Competition Bureau Seeks Comment on Request for Guidance Filed by the Universal Service Administrative Company*, WC 06-122 (May 9, 2011).

purposes. To resolve USAC's letter, Twilio encourages the Commission to determine that text messages are telecommunications and that text message revenues are telecommunications revenues.

Also before the Commission, and pending since August 2009, is a petition by Club Texting which would clarify that application providers that allow others to send text messages are not "senders" under the TCPA. *See Public Notice, Consumer & Governmental Affairs Bureau Seeks Comment on Club Texting's Petition for Declaratory Relief that Text Broadcasters are Not "Senders" of Text Messages Under § 227(b)(1) of the Telephone Consumer Protection Act*, CG Docket No. 02-278, DA 09-2387 (Nov. 9, 2009). If granted, Club Texting's petition would provide great certainty to application developers that their creative products would not subject them to liability under the TCPA for actions taken by their customers. The Commission should make clear that it is the customer sending the text messages, even if the application developer's software is used, and that the customer is the responsible party.

Finally, the application of common carriage principles to text messages would also resolve other lingering regulatory anomalies, such as state commissions' demands that telephone numbers used for text messaging are not "in service" if they are not also used for voice. The Commission should clarify that a number is in service, even if it is solely used for text messaging, and that a state commission cannot reclaim a telephone number under those circumstances.

By clarifying that text messages are subject to common carriage principles, the Commission would provide much needed stability to this market segment and ensure that competition will thrive for mobile applications that rely on text messages.

B. Reform the Short Code System

Second, the short code system set up by CTIA should be reformed to encourage growth in the mobile marketplace. Short codes are simply short telephone numbers that CTIA created in 2003 with the support of the major wireless carriers. CTIA requires that all text messages that are “application to peer,” which means the text messages that are generated by software and sent to individual cell phones, must use short codes. CTIA and the wireless carriers do not allow this type of text messaging over regular ten digit telephone numbers, although there is no technological reason for this distinction. Short codes are more expensive, harder to obtain, and completely unregulated when compared to a simple ten digit telephone number. Short codes do not operate under the North American Numbering Plan (“NANP”) and cannot even be used unless a company enters into a contract with an aggregator. Wireless carriers do not deal directly with a company wanting to use a short code. Thus, there is no ability to “port” a short code to encourage price competition among providers; the price is the same and is “take it or leave it.”

In other words, CTIA has taken a certain kind of messaging, “application to peer,” and taken it out of the typical numbering scheme (NANP) as well as making it more expensive, unregulated, and subject to blocking at whim. Because there is no alternative to short codes for “application to peer” text messages, there is no competition in this market segment.

Twilio encourages the Commission to reform the short code plan to bring it under the NANP umbrella, which would allow companies to buy short codes directly from carriers, such as they can now do with ten digit numbers. Not only would this make the short code plan less expensive and quicker to implement, it would also encourage the use of short codes while maintaining a centralized database. Companies should also be able to contract directly with carriers, both wireless and wireline, foregoing aggregators, who can then connect and complete text messages across all carriers. The ability to obtain numbers directly from carriers would also

allow companies to port short codes between carriers, which would lead to price competition. Short code text messages should also be subject to common carriage principles as discussed above.¹¹ Finally, any type of text message should be able to be sent across a short code or ten digit long code; it should be left to the application developer, not CTIA, to decide which type of telephone number makes the most sense. These changes would end CTIA and the wireless carriers' requirement that certain types of text messages must use short codes, subjecting them to the more expensive scheme for no technological reason. At the same time, existing laws like the TCPA would fully protect consumers.

Additionally, Twilio encourages the Commission to work towards a system that allows intermodal competition for text messages so that a text message is not limited to mobile telephone numbers and devices. Again, there is no technological reason a landline phone could not send and receive text messages, or a wireline carrier could not connect with a wireless carrier to exchange these types of messages. This would also increase competition in the mobile marketplace because landline carriers would be competing with wireless carriers to provision telephone numbers for text messages. This would lead to lower prices to obtain telephone numbers for text messaging purposes, because a company could always port its numbers to many different carriers, both wireless and wireline.

Reforming the short code system established by CTIA and the wireless carriers would be a critical step in encouraging competition to the benefit of mobile users. In a system with more stability, less arbitrary pricing, and greater regulatory certainty, application developers

¹¹ The Commission's Open Internet Rules also show that the trend should be towards greater openness for communications and information, not preserving the ability of carriers to block lawful communications.

can safely create new and interesting products. Twilio urges Commission action on short codes and text messages more generally.

IV. CONCLUSION

In sum, Twilio strongly urges the Commission to focus its review of mobile competition on mobile applications and products and whether wireless carriers are creating an open mobile ecosystem. By enabling the developer marketplace to thrive, the Commission will be benefiting consumers as they have access to more and more mobile applications and services. Twilio also requests the Commission declare that text messages are subject to common carriage principles and reform the short code system to encourage greater competition and benefit consumers.

Dated: December 5, 2011

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